

COUNCIL ON LIBRARY RESOURCES, INC. TWENTY-NINTH

ANNUAL REPORT/1985



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1785 Massachusetts Ave., N.W. Washington, D.C. 20036

ACKNOWLEDGMENTS



The scholar at his book-wheel is a reproduction of an engraving in Agostino Ramelli's *Le diverse et artificiose machine*... Paris, 1588. It first appeared in the Council's third annual report, with the following explanation: "the picture symbolizes the interest of the Council on Library Resources in both the content of books and the mechanics of library service." The engraving has appeared in each annual report since that time.

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^{1.} Resigned in November 1984.

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^{2.} Mr. Brooks was elected to succeed Mr. Haskins at the November 1984 Directors' meeting.

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- 3. Beginning in March 1985.
- 4. Beginning in January 1985.
- 5. Beginning in July 1984.
- 6. Elected at the November 1984 Directors' meeting.
- 7. Retired in December 1984.
- 8. Resigned in September 1984.

PART I. PROGRAM REVIEW

Introduction

The Council on Library Resources is essentially an agent for others—for libraries and librarians, to be sure, but also, in library-related matters, for university officers, faculty members, learned societies and academic organizations, and many individuals, not readily categorized, who are interested in and understand the importance of libraries. Indirectly, at least, we are also the agents of the foundations that fund us. The program described in this report of our twenty-ninth year is thus not one of our own creation. Instead, it grows from what we hear and reflects the priorities we sense.

One might expect, given the diversity of our advisors, that what we do would be fragmented and diffused. That is not really the case. There is an underlying uniformity of purpose in the activities of each of the three components of our program: research, exploration and installation of improved operating capabilities, and librarianship itself. One way or another, the intent in all cases is to reshape academic and research libraries so that their strengths are retained while they add the new capabilities the future demands.

At heart, the task is one of management—how will libraries redefine and meet their obligations in intellectually, economically, and socially appropriate ways? There is a tendency to rely on evolution, but evolution is too slow and unpredictable, given the opportunities offered by fast-moving technology and the hazards to scholarship of forces that see information more as a commodity than as a public asset. Librarians, with the help of many others, need to shape the future rather than wait for it to happen. CLR, as an agent, can help; the work itself will have to be done elsewhere.

Warren J. Haas

Research Activities

An Expanded Research Program

The Introduction to CLR's 1984 Annual Report asserted that a much-expanded research capacity was required to permit fuller exploration of topics related to information and its use in academic and research settings. The projected expansion of the Council's research program to meet that need was only an aspiration a year ago. Now, as the Council's twenty-ninth year comes to an end, the aspiration is about to become a reality.

During the past fall and winter, discussions within the CLR Board, in meetings with faculty and university officers on six campuses, and with many individuals confirmed the need to expand research activity. The discussions also suggested methods and topics for attention and provided some indication of costs, which, even when viewed conservatively, were well beyond existing CLR resources. The spring was devoted to securing financial support, and by the end of the fiscal year, over half of the estimated \$4.7 million needed for use over five years had been provided by three foundations: the J. Paul Getty Trust, the Andrew W. Mellon Foundation, and the Pew Memorial Trust. As our thirtieth year begins, we can turn, in this particular area, from planning to action.

The projected research program has several purposes, including:

Gathering, consolidating, and assessing what is known about the characteristics and use of information in the academic setting;

Encouraging the investigation of questions related to information and its use in teaching, research, and scholarship;

Developing and testing alternative approaches to providing information services and systems;

Promoting constructive discussions about the future role and form of libraries, especially in the context of higher education; and

Strengthening professional education for librarianship and the research base on which the educational structure rests.

These specific objectives do not fully convey the underlying reason for the Council's interest in mounting a major research enterprise. Simply put, the time has come to acknowledge that the capacities of recently developed technologies are such that important aspects of teaching and research now can be fundamentally transformed and improved for the benefit of individual students, scholars, and society. Libraries have a unique and inescapable role to play in this transformation. They need only to find the way.

The Questions

While the details of the research program will be shaped with the help of advisors and the CLR Board, the initial direction is established. Three general headings seem to cover most of the topics that have been suggested: information characteristics, users' requirements, and the structure of information systems. Examples of questions follow; they may or may not survive further discussion, but they do suggest that the work anticipated will help bridge the gap between specialized basic research in information science and the development and applications work that has characterized past CLR programs. There will be a new emphasis on building the background of facts and conducting the careful analysis required to shape future information services, and on creating the management capacities to provide those services, with special attention to the long-term interests of scholarship, universities, research libraries, and society.

1. Information characteristics

The quantity of recorded information is growing at an unprecedented rate. The fact that information put to use breeds new information is the reality of research. The unprecedented level of information use and the present high rate of information generation are hallmarks of our technology-driven information age. It is imperative that we learn more than we now know about the content and form of information, especially in the context of research and teaching. There are many topics that need exploration. These are examples:

What is the relationship between the characteristics of documents (format, length, language, age, etc.) and their usefulness?

The number of ways in which information can be distributed and stored is increasing. Print on paper has been the primary medium for five hundred years, but in the last two or three decades, photographic and electronic systems with great storage capacities and processing flexibility have been developed. Still, there are many unanswered questions about the utility of each of the new technologies for the needs of scholars. Can the information contained in widely distributed, machinereadable databases be used with the same confidence in validity and consistency that is assured by the availability of multiple copies of the same edition of a printed book? A recent CLR-sponsored study of public records suggests that there are fundamental problems in this area. How can optical disc technology, with its great storage capacity, be efficiently used by research libraries where demand for specific items is unpredictable and service is essentially customized?

If more were known about patterns of use of information and such matters as obsolescence and redundancy (and if these facts were widely understood), the effective application of specific technologies and the process of collection management both would be improved. Are format requirements fundamentally different for various disciplines or kinds of use?

How does the manner in which information is organized, stored, and presented affect its utility? Do the choices of method reflect only personal preferences, or do research methods typical of individual disciplines pose specific requirements for system performance?

Do large files of machine-readable information and new processing capabilities affect the substance as well as the methodology of research?

Access to large bodies of information in machine-readable form and the ability to organize and analyze data have influenced scientific research and technical development. There is far less experience in humanistic and historical studies, where work has in large part concentrated on various forms of text analysis. Given the prospect of massive text conversion efforts (for preservation purposes, for example), what new avenues of research will be possible? Should these research objectives influence preservation priorities?

Are there useful ways to assess the quality of information and information service?

The sheer quantity of information being generated and distributed and the trend toward viewing information and information service as commodities suggest that quality should be, increasingly, a matter for attention. Which databases, which information services, which sources are most reliable, most important, most useful? Can methods be found to assess information content and system performance in much the same way that books are reviewed?

What is the relationship between knowledge of the existence of information and actual use?

The growing quantity of information, the increasing number of sources, and an expanding body of users require greater precision in identifying and locating recorded information. Are new approaches to the analysis of information needed? Do new computer-based systems open the way to the integration of information on specific topics, regardless of form or source? Can bibliographic systems better meet the needs of users, while still satisfying the operating requirements of libraries?

2. User requirements

Too little is known about the need for recorded information or the influence of information services on the work and life of individuals, whether in universities or in any other sector of society. This lack of understanding, coupled with the cost and complexity of new information systems, opens the prospect that new capabilities will not be fully used or that only the most sophisticated users will benefit. There are many topics to be explored in the context of libraries and higher education:

How do information needs vary by discipline?

Are the needs of historians fundamentally different from those of geologists? Does traditional library operating philosophy (i.e., tending toward "equality" in resources and "uniformity" in services across all academic departments) need revision to accommodate differences in the kinds of services needed and the amount of information required?

How parochial is the information-using community?

Might improved access to information generated abroad improve overall system performance? In which fields? Are new capabilities for direct communication among individuals (outside the established peer review/publishing procedures) likely to curtail wider access? What effect will new informal information subsystems have on libraries?

In the complex information environment that is anticipated, what is the future role of libraries. especially in relationship to teaching?

Finding, assessing, and using information is becoming increasingly complicated and, as a result, it is important that attention be given to the study of information as a discipline at every educational level. Librarians need to understand the information structures supporting major disciplines, the organization of knowledge, the economics of information, direct and indirect forms of censorship and other constraints on access, and the public policy questions concerning information that will, when they are answered, affect our future in fundamental ways. Librarians need to develop better ways to teach not only the techniques but the substance of their calling.

3. The structure of information systems

The once uncomplicated and independent activities of writing, publishing, and managing libraries are all being transformed. The volume of worldwide publishing grows with economic and technical advances and growth in the population itself. Computer, telecommunications, and text storage systems open the way for fragmentation of activity and responsibility. Some information has monetary value, and there is great competition to establish and control markets by commercial and nonprofit organizations alike. But there is no simple correlation between the importance of information and its economic worth, a matter of growing importance that might, if left unattended, provoke serious discontinuities in system performance and unacceptable inequalities in access. This fundamental transformation in the information system is essentially one of providing new capabilities. Changes in the methods of scholarly communication will affect every aspect of society. Libraries have been the keystone of the system in the past, but it is now clear that the shape of that keystone must change if it is to function well. Despite many claims and assertions, the information structure of the future has not yet taken shape, but the pace of change is such that it is imperative that "architects" of great skill, who are concerned with the well-being of universities, scholarship, and libraries, go to work with some sense of coordination before a structure is imposed by default.

Examples of topics for attention include:

The organization of information activities in research universities

The blurring of some aspects of library activity with computer and communication services raises questions of cost control, planning responsibility, and operational overlap. How should universities manage information systems and services? Within libraries, what organizational changes are required as access to information becomes as important as collection ownership?

Collection management

Can libraries develop a collection management strategy that makes full use of such options as storage alternatives, reliance on machine-stored records rather than printed sources, and cooperative collecting ventures, all in ways that control costs without creating unacceptable difficulties for users?

Multi-institutional operations

Formal library cooperatives and library service organizations have increased in number and influence, but there has been little reliable effort to assess the relationships between the forms of the organizations and the effectiveness of their programs. Further, there have been few analyses of the service and economic benefits of such undertakings for individual libraries and their users or, conversely, too little program specification for fully productive cooperative ventures.

Problems of technology

What issues are introduced by information system technology that need attention in the special setting of the research university? (For example, privacy, reliability of databases, limitations on access to information, implications of dependence on commercial data services, etc.)

Opportunities for technology

Are there promising new ways to configure technology for specific purposes? In preservation, for example, can the use of appropriate technology simultaneously protect and expand access to important materials? Can improved management systems be developed for research libraries? What are the realistic prospects for recently developed text and image storage equipment?

The topics and questions in all three categories only hint at the range of subjects being considered for attention. The changes in the composition of library staffs, the future library role in collegiate and university instruction, the prospects for developing international information systems, methods of setting priorities for preservation, exploration of alternate ways to improve planning at the national level, and investigation of funding approaches for national undertakings are equally important matters.

Even this brief summary suggests the magnitude of the task. Methods of selecting participants are not yet established, but to accomplish the work, several approaches will have to be followed. It seems certain that several universities and many individuals from many disciplines will need to take part.

University Research Centers

The preliminary discussions and planning meetings identified a large number of specific topics for investigation. Those same discussions suggested that if there is to be fundamental change in libraries, work must be concentrated on a very few basic matters. By consolidating categories of questions and issues, two broad subjects have been identified for initial attention:

Information characteristics and information use

This general subject includes such issues as the information requirements of various disciplines; the working habits of scholars; the effects on scholarship of alternate ways of organizing, collecting, and distributing information; the influence of technology-based information systems on teaching and learning; and the relationship between the form and utility of information. In short, the intent is to understand better the academic requirements for library service and information systems so that changes might enhance and improve, rather than threaten, what we now have. The research and analytical activity is intended to encourage faculty, university administrators, computer specialists, and librarians to join forces to specify their needs and thus determine their collective future.

The organization and management of information systems and services in universities

The integration of all forms of information, the characteristics of the technologies driving the information revolution, a complex economic and legal setting, and an inescapable set of social obligations and objectives requiring access to information are all powerful forces affecting long-established procedures and institutions. Narrow objectives and constrictive organizations are not compatible with the realities of the developing information structure. New forms for research libraries must be found to meet needs in fiscally responsible ways. The opportunities that technology brings will be realized only if organizational structures reflect the characteristics of scholarly communication itself. Research and reflection in this general area will help clarify the future nature of the information setting in which scholars and institutions will do their work; explore alternate organizational structures within and among universities; and consider the methods, skills, and responsibilities inherent in the systems and structures that will be needed if opportunities are to be realized for individuals and institutions alike.

To consider these matters, it is anticipated that three or four university research centers will be established, thus providing an opportunity for participation by individuals from a variety of disciplines and encouraging both collaboration and productive competition. One component of each participating university (an administrative office, a library, or a library school) would assume administrative responsibility, but emphasis will be on institution-wide participation.

Independent research

A new grant program will be established and managed by CLR to encourage work by individuals unaffiliated with the university research centers. Guidelines soon to be published will reflect overall objectives and will encourage participation from many disciplines. It is anticipated that the subjects for research and review will complement work undertaken in the university research centers or advance CLR operating programs related to bibliographic service, access, preservation, and management.

Information, evaluation, and promotion

Research, by itself, cannot prescribe action. But, by assembling facts, encouraging participation, and identifying matters for attention, it can help the individuals and

institutions that have responsibility for the future. It is most important to stimulate responsible discussion on as many fronts as possible. The methods now projected include encouragement of publication in refereed journals, publication of summary and analytical reports in a new CLR-sponsored series, continuation and substantial expansion of the CLR Forums, and development of and support for a series of seminars on many campuses, where the decisions will be made and the work will be done.

Program Activities, 1984/1985

University Planning Meetings
University of Chicago, November 5, 1984
University of Wisconsin, Madison, November 28, 1984
University of California, Los Angeles, December 9, 1984
Washington University, December 14, 1984
Princeton University, January 17, 1985
Columbia University, January 31, 1985

The Economics of Research Libraries

The Seminar on the Economics of Research Libraries held one general and seven regional meetings during the past year, each involving university administrators, library directors, economists, and representatives of several other disciplines.

Because the first Economics Seminar (March 1984) identified issues and problems that required investigation, several studies were commissioned. The second Seminar (November 1984) received reports from the sponsored projects, among them a study of the costs of technical services in eight libraries, including the direct and indirect costs of library consortia and cooperative ventures; a supplemental survey of expenditures in Association of Research Libraries (ARL) university libraries for 1983–84; and a project carried out by the ARL Office of Management Studies to determine current levels of expenditures for automation in university libraries.¹

As a result of suggestions made by participants in the second Seminar, a comprehensive study of organization, management, finances, and planning processes is being completed in four university libraries that are introducing new technologies or making organizational changes. This work is being performed by the National Association of College and University Business Officers (NACUBO), with support from CLR. The study is expected to provide information that will be useful for strategic planning.

Regional Seminars

Seminars on the economics of research libraries were conducted on seven campuses: Emory University; Florida State University; the Massachusetts Institute of Technology; the University of California, Berkeley; the University of Illinois, Urbana-

^{1.} Participants in the second Seminar are listed on p. 40.

Champaign; the University of North Carolina, Chapel Hill; and the University of Texas, Austin. More than one hundred university officers, faculty members, and librarians participated in the discussions.

The general questions considered in these meetings were:

- 1. Where and how do scholars and researchers obtain needed information today? How will this change in the future?
- 2. Why is library excellence of importance to the university's mission?
- 3. What is the role of the library in the "wired campus?"
- 4. What choices are libraries facing in allocating resources in accordance with institutional trends and priorities?
- 5. How should the cost of computer-based information services be paid? Should the students, faculty, departments, library, or institution be responsible?
- 6. What is the role of the librarian in campus-wide strategic and technical planning?

At each seminar, participants identified economic and technological issues that affect library planning and budgeting, considered the ways in which consortia and bibliographic utilities have changed the cataloging processes, and discussed the need for new policies related to user charges for online services.

Although no consensus was sought, it was clear that most participants believe that libraries will remain a major source of scholarly and scientific information, that libraries will adjust to new technologies, and that, through this adjustment, they will survive the threat of being undermined by specialized information services. Resource sharing through consortia will continue, although the high costs of some specialized services may require major subsidies. Libraries will be major elements of the "wired campus" and will transmit documents, data, and film via electronic systems. Librarians will be expected to be managers of more complex information systems than those that currently exist. There is a clear need for improved strategic planning based on some method of evaluation of library costs and performance.

The final Economics Seminar will meet on October 28–30, 1985. Two papers will provide a basis for discussion: a review of projected library cost trends by Michael Cooper, University of California, Berkeley; and an analysis of costing and performance measures in academic library public services by Charles McClure, University of Oklahoma. Results of the NACUBO study of libraries in transition also will be presented.

A final report on the work of the Seminar is expected to be completed for publication in early 1986.

Economics Seminar Projects, 1984/1985

American Library Association

For partial support of a Public Library Association Cost Analysis Task Force project to develop a manual that defines cost concepts and provides methods of collecting and analyzing cost data for public libraries.

American Library Association

To fund incremental costs of supplementary data analysis for the ACRL University Library Statistics, 1983-84.

Association of Research Libraries

To collect data for the Economics Seminar on the costs of automation in ARL member libraries.

Malcolm Getz, Vanderbilt University

To provide a critical review of library statistics.

National Association of College and University Business Officers

To study strategic planning and budgeting for university libraries and the impact of technological changes on library operations.

Tantalus Inc.

To identify the costs and benefits of library consortium membership and to trace the effects on costs of acquiring and processing monographs in eight university libraries. (CLR's Information Delivery Services Program provided half the cost of this project.)

Program Activities, 1984/1985

Seminar on the Economics of Research Libraries November 8–9, 1984 (Washington, D.C.)

Campus Seminars Florida State University, January 30, 1985 Emory University, March 20, 1985 University of Texas, April 11, 1985 University of California, Berkeley, April 29, 1985 University of Illinois, May 7, 1985 University of North Carolina, Chapel Hill, May 28, 1985 Massachusetts Institute of Technology, June 6, 1985

Library Operations and Services

Resources, Preservation, and Access

The technologies now widely available to libraries greatly improve prospects for rational collection development, resource sharing, and preservation. The funded projects within this category are meant to help pave the way for better-informed decisions about library resources. Improving access to information and library materials is an equally important consideration. Several activities of the past year were aimed at identifying users' needs.

Within the Information Delivery Services Program funded by the Ford Foundation, five papers on topics that need to be addressed by the library community were commissioned for use by CLR staff: (1) matters related to copyright and new technology and (2) reimbursements to libraries that are collecting materials in the national interest. The authors, who represented the perspectives of university librarians, state librarians, and publishers, identified issues for the Council to pursue through research and funded projects.

CLR also made grants to supplement existing knowledge about document delivery and its improvement through organizational changes, and to learn more about specific user needs for library materials. The International Council for Scientific and Technical Information received funding to compare the use rates of serial publications by the largest interlibrary loan organizations in the United States, France, and the United Kingdom. The National Commission on Libraries and Information Science used its grant to conduct a survey of public and academic libraries to find out more about the current status of fees for services. The Center for Research Libraries commissioned a study of its membership, governance, and fees in the course of redefining its role as a national document provider.

Two groups of historians met with CLR staff to begin a discussion of how technology affects the ways in which scholars do their work, and how they gain access to the literature of their disciplines. The problems posed by various indexing and retrieval systems used for different categories of the literature have only been identified. Much research is still required before solutions to these problems can be proposed and acted upon.

The Committee on the Records of Government, sponsored by CLR, the American Council of Learned Societies, and the Social Science Research Council, issued its final report in April 1985.¹ The Committee conducted an eighteen-month investigation of the issues facing public archives. Among the topics considered were methods of organizing, storing, and preserving government records; the unique challenges posed by computer-generated records; employment of new technologies in records management; and public expectations for access to the contents of archives.

Preservation again became a highly visible program of the Council with a grant of \$1.5 million from the Exxon Education Foundation in May 1984. Funds were earmarked for three purposes: (1) the creation of a Mid-Atlantic States Cooperative Preservation Service; (2) the establishment of a national planning effort; and (3) the promotion of wider understanding of the preservation problem.

In September 1984, the Council advised Association of Research Libraries members, state librarians, and historical society directors from the Mid-Atlantic region of the availability of funds for an expanded preservation effort. The group named a steering committee to act on its behalf, with Donald Koepp, Princeton University Librarian, as chairman. The steering committee, after wide consultation with colleagues, concluded that five libraries (Columbia University Libraries, Cornell University Libraries, New York Public Library, the New York State Library, and Princeton University Library) should assume initial responsibility. A joint venture agreement has been signed as a prelude to the creation of a not-for-profit preservation center. The immediate task is to accelerate preservation microfilming in the Mid-Atlantic libraries. At the same time, new technology will be monitored and assessed and ways will be sought to reduce the unit cost of brittle book preservation.

The national planning effort is in the hands of the Preservation and Access Committee, composed of university administrators, faculty members, librarians, and others concerned with preservation.² Two fundamental decisions were made during the first meeting in October 1984: (1) access to what is preserved is as important as preservation itself, and recommendations must take both requirements into account; and (2) even though there are many preservation needs, this committee will concentrate on brittle books.

The committee met three times during 1984/85 and released its interim report in July 1985; the final report should follow early in 1986. The interim report records the committee's work and contains summaries of several commissioned studies and discussion papers. These include a paper by Robert Hayes (University of California, Los Angeles) on the magnitude of the preservation problem, and a research report on library applications of video and optical digital disk technologies by Information Systems Consultants Inc. Background papers produced by committee members stimulated discussions on establishing preservation priorities, involving faculty in preservation decisions, incorporating records of preserved titles into bibliographic systems, funding preservation activities, and exploring organizational approaches to the problem.

The current phase of the committee's work includes finding ways to expand the discussion to a far broader audience, investigating possibilities for strengthening the

^{1.} Members of the committee are listed on p. 41.

^{2.} Members of the committee are listed on p. 40.

access system, and conducting additional fact-finding studies. Perhaps the most difficult task will be to assess national organizational options for preservation that take current efforts into account.

Resources, Preservation, and Access Projects, 1984/1985

American Council of Learned Societies

To help establish an Office of Scholarly Communication and Technology.

American Geographical Society

To plan for a new Columbia Gazetteer of the World.

American Library Association

To partially fund expenses of speakers for a series of conferences on the preservation of library materials, sponsored by the Resources and Technical Services Division of ALA in cooperation with the Library of Congress.

Association of Academic Health Sciences Library Directors

To partially fund a joint AAHSLD/Medical Library Association project to produce guidelines for academic health sciences center libraries.

Center for Research Libraries

To engage a consultant to assist the Center in studying its membership, governance, and fees structures.

Duke University

To collect information on the construction of Byzantine bindings and to make comparisons with other early bookbinding practices.

Eckerd College

For partial support of a bibliographic instruction workshop.

Information Systems Consultants Inc.

To investigate and report on the potential of optical media for libraries. Videodisc and Optical Digital Disk Technologies and Their Applications in Libraries was published by the Council in March 1985.

International Council for Scientific and Technical Information

To compare the use of serials by major interlibrary loan organizations in the United States, France, and the United Kingdom.

International Federation of Library Associations and Institutions

To help plan new core programs, including preservation and Universal Access to Publications, and to establish a management structure for those programs.

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National Commission on Libraries and Information Science

To support preparation of a discussion paper on library user fees and provide for its review by an oversight committee.

Princeton University

For activities related to the establishment of a Mid-Atlantic States Cooperative Preservation Service.

Records of Government

Sponsored by CLR, the American Council of Learned Societies, and the Social Science Research Council, the Committee on the Records of Government conducted an 18-month inquiry (July 1983–December 1984) into issues surrounding the creation and preservation of government records.

The Research Libraries Group, Inc.

For partial support for an International Conference on Research Library Cooperation, held October 1-3, 1984.

Syracuse University

To enable Mona Farid and Eileen Snyder to investigate the information-seeking behavior of students enrolled in Ph.D. programs.

Tantalus Inc.

To identify the costs and benefits of library consortium membership and to trace the effects on the costs of acquiring and processing monographs in eight university libraries. (The Economics Seminar provided half the cost of this project.)

University of California, Los Angeles

To enable Robert M. Hayes to prepare a paper on the current dimensions of the preservation problem in U.S. libraries.

University of California, Los Angeles

To enable Christine Borgman and Donald Case to conduct a feasibility study to assess the need for a consumer's guide to databases.

University of California, Los Angeles

To enable John V. Richardson, Jr., to begin work on an annotated bibliography of English-language works about education for librarianship.

University of Illinois

To help establish the program of the Coalition for Public Library Research.

University of Michigan

To examine attitudes of faculty in selected disciplines concerning shelving books in storage facilities and to test the influence of enhanced access and delivery services on those attitudes.

University of Minnesota

To enable M.J. Dustin and Anita Anker, Minnesota Interlibrary Telecommunication Exchange (MINITEX), to analyze network activity and develop a document delivery model.

Priscilla C. Yu

Partial assistance for a study of collection development in Western language materials in selected Chinese academic and research libraries.

Program Activities, 1984/1985

Committee on Preservation and Access October 16-17, 1984 (Washington, D.C.) February 5, 1985 (Washington, D.C.) May 21, 1985 (Washington, D.C.)

Access to historical literature discussions April 4, 1985 (Washington, D.C.) June 19, 1985 (Washington, D.C.)

Mid-Atlantic preservation discussion September 20, 1984 (New York Historical Society)

Bibliographic Services

The sixth year of the Bibliographic Service Development Program (BSDP) was marked by an emphasis on communication activities and functions and by continued work on several very large projects.¹ Three new grants were awarded during the year, all for activities supporting principal areas of the bibliographic program.

The complexity of the Linked Systems Project (LSP) prevented it from becoming operational this year, but the participants made substantial progress.² The Library of Congress (LC) and the Research Libraries Group (RLG) completed all work on the Standard Network Interconnection and began to implement the telecommunication protocols. By March 1985, LC was sending authority records over the link to RLG and RLG, shortly thereafter, was able to send records back to LC. This activity is still in the pilot stage, but authority records did flow over the link in 1984/85. The integration of functions within the Washington Library Network (WLN) system posed special challenges to its project work. Accordingly, WLN will test only the telecommunication protocols until all of the planned changes in its authority system are completed. This is unlikely to happen until near the end of the 1985/86 fiscal year. LC and RLG will be operational for purposes of record distribution (LC to RLG) and record contribution (RLG to LC) within the next fiscal year.

^{1.} Members of the BSDP Program Committee are listed on p. 39.

^{2.} Participants in the LSP are listed on p. 39.

An important endorsement of the principles behind LSP occurred when OCLC sought and received grant support to develop software that will enable that organization to participate in LSP. Because OCLC will implement LSP on equipment devoted solely to managing authorities and LSP functions and because it will capitalize upon the specification work already completed by other participants, the implementation task will be expedited. It is likely that OCLC will be ready to test certain functions at the same time that RLG and LC are ready to do so, thus promoting prompt system utilization nationwide.

With all LSP institutions scheduled to complete work on both the authorities and the telecommunication protocol implementation, 1985/86 is likely to be a watershed year in the linking of large bibliographic databases. The initial application—creating and sharing authority records—represents only a beginning. More work will be required on other applications to take full advantage of the capabilities offered by the Linked Systems Project.

The library systems vendor community is interested in the possibilities of a common set of telecommunication protocols for the library world and is closely watching LSP progress. Two meetings of interested vendors were held to keep them abreast of current developments. Such meetings will be repeated in the months ahead.

The National Information Standards Organization (NISO) is also watching LSP, especially the telecommunication protocol development activities. CLR provided a small grant to NISO to help support the costs of providing secretariat services for the International Standards Organization's Technical Committee 46 (Documentation), Subcommittee 4 (Automation in Documentation), which will develop the international standards for telecommunication protocols for library applications.

Ultimately, the linking of library computer systems will move to the local level, allowing intersystem linkages for many purposes. To allow effective sharing of information, the systems (particularly online catalog systems) must be technically compatible. For this reason and because of the importance of considering users' needs, the BSDP has paid much attention to the development, assessment, and improvement of online catalogs. During the past year, CLR hosted a meeting to consider online catalog screen displays and their utility. To provide a background for discussions, the sessions began with an online catalog "fair" in which the displays of twenty-three separate online catalogs were demonstrated and critiqued.

In January, a meeting was held to assess progress of the OCLC-Forest Press evaluation of use of the Dewey Decimal Classification (DDC) system to enhance subject access in the online catalog. Employing a portable online catalog with a database searchable with or without DDC supplementation, the researchers are assessing which, if any, features of the DDC improve subject searches by inexperienced users. A related CLR-funded project at OHIONET to establish search links between classification numbers and subject headings assigned at any given library was completed. The procedures have been adopted by three public libraries in Ohio.

As libraries adopt online catalog technology, the matter of bibliographic records not in machine-readable form becomes pertinent. Few library users consult both the computer catalog and the card catalog because, rightly or wrongly, they expect them to be redundant. The process of capturing card records in machine form is called retrospective conversion, or RECON. RECON has consumed a large part of the BSDP's agenda for the last one and one-half years.

After hosting successive meetings for representatives of general research libraries and music libraries, CLR was called upon to assist each community in slightly different ways. The music group prepared a plan to support the first steps of music RECON. The Association of Research Libraries (ARL) accepted responsibility for creating a North American plan for general retrospective conversion. With a grant from CLR, ARL staff assessed the task and prepared a strategy for accomplishing it. At the ARL annual meeting in May 1985, the plan was approved for a pilot period.

During 1984/85 the Association of American Publishers (AAP) project to develop codes for manuscripts in electronic form moved from the specification of the required codes to their definition and the preparation of author guidelines for their use. At the close of the fiscal year, approximately fifty authors were testing the codes in a variety of writing projects, ranging from the preparation of high school textbooks to scientific articles. After changes and adjustments are made, the codes will be sent to the National Information Standards Organization for review. The proposed codes will give the author more control over the final product, assist the publisher in reducing the time required to print an item, provide options for other publisher products and services, give the library community an opportunity to capture bibliographic data directly from the original electronic source, and advance prospects for a variety of electronic library products and services.

Bibliographic Services Projects, 1984/1985

Association of American Publishers

To develop a standard set of codes for identifying components of manuscripts in electronic form, building on past work by the Graphic Communications Association, the American National Standards Institute, and the International Standards Organization.

Association of Research Libraries

To enable ARL and the National Federation of Abstracting and Indexing Services to enrich records in the CONSER database by adding information on coverage of serial titles by many abstracting and indexing services.

Association of Research Libraries

To develop a coordinated North American retrospective conversion program.

Columbia University

For a study to measure the impact of online public access catalog implementation on all aspects of public services at the Columbia University Libraries.

Council of National Library and Information Associations, Inc.

To provide support for the National Information Standards Organization, with emphasis on work related to a common command language for interactive systems.

Forest Press

In conjunction with the OCLC Online Computer Library Center, to explore the use of the Dewey Decimal Classification as a subject access enhancement for online catalogs.

International Federation of Library Associations and Institutions

For consultative assistance in modifying the MINISIS management and information retrieval software at Canada's International Development Research Center to support Universal MARC (UNIMARC), the standard communications format for bibliographic records adopted by IFLA. The product will enable many institutions in developing countries to process UNIMARC cards.

Linked Systems Project

Participants: The Library of Congress, the OCLC Online Computer Library Center, the Research Libraries Group, and the Washington Library Network.

To design, develop, test, and implement a standardized telecommunication link, or Standard Network Interconnection, to permit exchange of data, initially between the LC, OCLC, RLG, and WLN computer systems and, ultimately, between any two computer systems.

To implement the exchange of authority records, using the Standard Network Interconnection.

To analyze requirements and develop additional functional specifications for the online exchange of bibliographic records and related information, using communication links developed in the Linked Systems Project.

National Information Standards Organization

To support 1985 service as secretariat for International Standards Organization Technical Committee 46 (Documentation), Subcommittee 4 (Automation in Documentation).

New York University

To evaluate the effectiveness of the library's new online catalog by determining actual results of searches and relating the results to users' perceived levels of satisfaction.

Northwestern University

To develop a model teaching strategy for training online catalog users and to evaluate the effectiveness of such training through transaction log analysis.

OCLC Online Computer Library Center

In conjunction with Forest Press, to explore the use of the Dewey Decimal Classification as a subject access enhancement for online catalogs.

OCLC Online Computer Library Center

Partial support for work to develop OCLC's Linked Systems Project communications interface and software for the authorities application.

OHIONET

To develop and test an online subject thesaurus that links Library of Congress Subject Headings with Dewey Decimal and Library of Congress Classification numbers.

The Research Libraries Group

For a task force planning to improve scholarly access to machine-readable data files by integrating records for those files into the Research Libraries Information Network.

Stanford University

To investigate end-user searching of bibliographic databases by comparing the effectiveness and costs of using the DIALOG command language with the Institute for Scientific Information's Sci-Mate intermediary software.

Sarah E. Thomas, CLR Intern, University of Georgia

To analyze the serial holdings of the Center for Research Libraries to determine how easily CRL serials might be classified, to determine the distribution of institutions holding CRL serials, and to review in detail CRL holdings that also are held by the University of Georgia.

University of Kentucky Research Foundation

To enable Lois M. Chan to revise her text, *Library of Congress Subject Headings: Principles and Application*, adding material on changes influenced by AACR2 and a study of LC subject headings in online public access catalogs.

Program Activities, 1984/1985

Bibliographic Service Development Program
Program Committee

December 3-4, 1984 (Washington, D.C.)
April 11-12, 1985 (Cambridge, Massachusetts)

Bibliographic Service Development Program Linked Systems Project

September 25-26, 1984 (Washington, D.C.)
December 5, 1984 (Washington, D.C.)

Dewey Decimal Classification Online Project

Mid-Project Review
January 21-22, 1985 (Dublin, Ohio)

Network Advisory Committee

November 14-16, 1984 (Washington, D.C.)
May 6-8, 1985 (Washington, D.C.)

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Online Catalog Screen Displays March 11-13, 1985 (Lakeway, Austin, Texas)

Retrospective Conversion July 16-18, 1984 (Wayzata, Minnesota)

Retrospective Conversion of Music Materials July 18-19, 1984 (Wayzata, Minnesota) September 12, 1984 (Washington, D.C.)

Librarianship and Librarians

Well-educated librarians are essential to assure a high level of library performance. Other sections of this report document program activities designed to address the challenges faced by research libraries. This section describes the work of the professional education program (PETREL), which seeks to assure that adequately prepared staff will be available to meet those challenges.¹

From the beginning, PETREL has been a two-pronged effort. Projects directed to the needs of individuals include those designed to recruit outstanding students for the profession, to enhance the managerial competencies of mid-career librarians, and to add an intensive academic component to newly appointed library administrators' skills. Projects undertaken by library schools or other academic units of a university are intended to strengthen professional education.

Initial grants for the benefit of individuals at the University of California, Los Angeles, the University of Michigan, and the University of Chicago are nearing an end, but in two of the cases, the library schools have found ways to incorporate the special programs into the regular curriculum. A one-year grant to the University of Michigan will ease the transition from external funds to the new Library Associates program, a continuing joint effort between the library and library school to recruit and train new librarians. UCLA is hosting the third and final class of Senior Fellows in August 1985, as planned in the original grant. The academic offerings will be incorporated into the regular curriculum, and it is anticipated that special summer institutes for library administrators will be continued.

A series of planning and implementation grants was established in 1983/84 to help library schools and universities think through the educational needs of research librarians in the next several years. At the end of fiscal 1985, most of these grants had been made. Fifteen planning grants have been awarded and two have developed into funded implementation programs. The evidence from the planning grant reports is that much concentrated thought has been given to curriculum in the library schools. Frequently, other components of the university were involved in the process.

The first implementation grant was given to the University of Wisconsin, Madison. Wisconsin has begun a two-year certificate program in research methods and

^{1.} Members of the PETREL Advisory Committee are listed on p. 41.

design for the staffs of libraries in the Midwest. Participating librarians will spend two summers on the University of Wisconsin, Madison, campus and will undertake research in their own libraries between academic sessions.

The University of Chicago Graduate Library School, recipient of the second grant, will offer a new curriculum concentration in library automation and information systems. The academic program will draw on many related parts of the University: the library, the computation center, and the University Office of Information Systems Planning.

A second Institute for Library Educators has been funded through the Association of Research Libraries. Following a format similar to that of the first institute, held in 1984 at the University of North Carolina, Chapel Hill, the second will be held at another location in 1986. The purpose of the institute is to acquaint faculty who are teaching courses related to academic librarianship with the current issues being addressed by research libraries.

Two grants were made during the past year under the most recent PETREL program, Internships for Recent Graduates, which is designed to encourage academic research libraries to develop innovative continuing education programs for beginning staff. Central to the program is the notion that the research library setting is growing operationally more complex and, in many cases, is becoming more closely linked to teaching and research. Grants to the University of Georgia, and to the University of Chicago on behalf of its library and Graduate Library School, Northwestern University, and the University of Illinois, Chicago, will enable fifteen or more librarians each year to participate in seminars and special courses that introduce the broad issues facing universities. The internships will bring newly hired librarians into direct contact with the wider academic community of which they are a part, as well as giving them wider exposure to library operations.

The Faculty/Librarian Cooperative Research program, designed to encourage closer working relationships between teaching faculty and librarians, continues to expand. In the three cycles this year, eighty proposals were received and twenty-five were funded. Results of the grants demonstrate an increasingly high quality of research among academic librarians and many of the reports have been published.

Professional Education Projects, 1984/1985

American Library Association

To help support initial planning efforts for the International Federation of Library Associations and Institutions Conference to be held in Chicago in August 1985.

Association of Research Libraries

To enable the Office of Management Studies to design and conduct a second Institute for Library Educators.

Atlanta University

To develop a plan to recruit and train science librarians at the master's degree level for careers in academic/research librarianship.

Case Western Reserve University

For partial support for a committee studying the academic basis for establishing a university curriculum in information science.

Catholic University of America

To partially fund an ALA-IFLA First World Conference on Continuing Library and Information Science Education, to be held as a preconference to the 1985 IFLA meetings.

Indiana University

To plan a continuing education program for librarians on issues of importance to research libraries and their users.

Kent State University

To explore several options for extending the MLS program.

Louisiana State University

To plan for recruiting students from computer science programs for the joint master's degree program in library and information science.

P. B. Mangla

To cover the direct costs of visiting selected libraries and library schools in the U.S. following the IFLA Conference.

North Carolina Central University

To plan an interdisciplinary master's degree program in information science.

Obio University

To partially cover publication costs for the proceedings of the 1983 joint meeting of the Chinese-American Librarians Association and the Asian/Pacific American Librarians Association.

Rutgers University

To develop a plan for recruiting and training scientists and engineers in research librarianship.

State University of New York, Buffalo

To consider options for developing training programs for academic/research librarians.

University of Alabama

To plan topical instructional modules in library management and information studies, intended for individual study by advanced students and research library practitioners.

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University of California, Los Angeles

To continue the Senior Fellows Program, which provides senior library administrators with opportunities for intensive, specialized study in management, and independent research.

University of California, Los Angeles

For a study of the career paths of CLR Senior Fellows and comparison of their career patterns with those of a control group.

University of California, Los Angeles

To plan a coordinated degree program between the School of Library and Information Science and the College of Fine Arts.

University of Chicago

For a multi-institutional internship program for recently hired library school graduates. Those involved are the University of Chicago Library and Graduate Library School, Northwestern University Libraries, and the University of Illinois at Chicago Library.

University of Chicago

To conduct a systematic evaluation of the Graduate Library School curriculum in the areas of library automation and information science.

University of Chicago

To implement a special concentration in library automation and information systems and stimulate awareness of the programs within the university and library communities.

University of Denver

To assess the need among Western academic/research librarians for a special certificate program in academic/research librarianship.

University of Georgia

To develop an internship program to introduce recently hired library school graduates to the full range of issues important to the university and to librarianship generally.

University of Michigan

To provide fellowship funding through spring 1985 for the School of Library Science's program to prepare specially recruited students for leadership roles in academic/research libraries.

University of Michigan

To establish a cooperative academic/internship program for library school students between the University Library and the Library School.

University of Oklaboma

To design a program for improving information resource management skills through interdisciplinary work in research methodology, evaluation techniques, interpersonal skills, information systems applications, and marketing.

University of Tennessee

To consider developing an undergraduate program in information science.

University of Wisconsin, Madison

To develop a supplementary education program for librarians currently employed in research libraries, with the objective of increasing participants' ability to undertake research.

University of Wisconsin, Madison

To implement a two-year academic program to enhance research librarians' problem recognition and problem solving capabilities through training in research methods.

Faculty/Librarian Cooperative Research Projects 1982/1984 Grants Active in Fiscal 1985

Ruth Person, Catholic University, and George Charles Newman, State University College of New York at Buffalo

To study the selection process for university library directors.

Jean Currie, Joan Hullar, and James Zuiches, Cornell University

To compare the costs and delivery times of three different suppliers for interlibrary loan requests.

Marcy Murphy, Indiana University, and Martha Bailey, Purdue University To identify managerial competencies at four professional levels in research libraries.

Carolyn Snyder, George Whitheck, and Stella Bentley, Indiana University To study the costs of public services in research libraries.

Cynthia Dobson, Paula Morrow, and Dilys Morris, Iowa State University To investigate the impact of new physical facilities on job satisfaction and job performance.

- Andrew Torok and Jitka Hurych, Northern Illinois University To study online searching of bibliographic and numeric databases.
- Marjorie Murfin, Obio State University, and Charles Bunge, University of Wisconsin To analyze survey data for an assessment of reference services.

Ben-Ami Lipetz, State University of New York at Albany, and Peter Paulson, New York State Library

To measure the impact on users of the addition of online subject searching to the catalog of the New York State Library.

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Karen Smith and Stuart Shapiro, State University of New York at Buffalo

To develop a diagnostic computerized system to direct users to reference sources in the government documents department.

Julia Gelfand and John King, University of California, Irvine

To study the effects of consolidation in a university library, including economies of scale and the preservation of services to multidisciplinary research units.

Kathleen Gunning, University of Houston, and Carolyn Frost, University of Michigan

To explore requirements for making subject access via Library of Congress subject headings more comprehensible to online catalog users.

Ronald Powell and Sheila Creth, University of Michigan

To survey the graduates of the university's library school to assess their present needs for job skills.

Robert Swisber and Rosemary Du Mont, University of Oklaboma, and Calvin Boyer, University of California, Irvine

To study the extent to which female academic/research librarians seek administrative positions.

Pamela Vance and K. Leon Montgomery, University of Pittsburgh

To investigate the demand for rapid document delivery service and, if needed, formulate a plan for implementation.

Virginia Bowden and Sharon Fought, University of Texas Health Science Center

To compare collections of recent (1977-83) nursing monographs in 15 academic health science center libraries in the Southwest.

Keith Miller and Jean Johnson, University of Wyoming

To study library resources and services required to meet the needs of nontraditional library users.

1984/1985 Grants

Katherine Chiang, Howard Curtis, Linda Stewart, and J. Robert Cooke, Cornell University

To test the use of microcomputer technology for supporting access to large bibliographic data files and to make a MEDLARS database subset available to users.

Sara Woolpy and Jerome Woolpy, Earlbam College

To study the use of online abstracts as a source of information for undergraduate research.

David Vidor and Elizabeth Futas, Emory University

To study collection development in professional school collections.

Merrill Smith and Patrick Purcell, Massachusetts Institute of Technology

To examine the electronic delivery of visual images and text from the library to the academic community.

Lloyd Davidson, Northwestern University, and Julie Hurd, University of Chicago

To analyze Chemical Abstracts Service online end user transaction logs and user behavior.

Thomas Surprenant, Queens College, Barbara Moran, University of North Carolina, Chapel Hill, and Merrily Taylor, Brown University

To explore the role of the library in Brown University's efforts to incorporate electronic technologies in teaching, learning, and research.

Arthur Downing and Daniel O'Connor, Rutgers University

To study undergraduates' preferences for the number of bibliographic citations obtained through online searching.

James Sweetland, State Historical Society of Wisconsin, and Darlene Weingand, University of Wisconsin, Madison

To study the effect of transaction fees on the use of interlibrary loan services.

Helen Gothberg and Donald Riggs, University of Arizona

To study time management in academic libraries.

Mary Biggs, University of Chicago, and Victor Biggs, Lake Forest College

To study collection development policies for academic library reference collections.

Betty Taylor, Elizabeth Mann, and Robert Munro, University of Florida

To study the impact of automation on the law school library budget, and the implications for library budgeting in general.

Beverly Lynch and Jo Ann Verdin, University of Illinois at Chicago

To replicate an investigation of the nature of the work of university libraries, and assess the impact of technological change on organizational structure, task characteristics, communication patterns, unit output, and job satisfaction.

Gary Marchionini and Danuta Nitecki, University of Maryland

To develop and test training materials for the library's online circulation system.

Gary Marchionini and Dean Gattone, University of Maryland

To study the use of online catalogs and relate individual characteristics to use patterns.

Helen Lloyd Snoke and Jean Loup, University of Michigan

For a comparison of the approval plan profiles of academic research libraries.

Mark Rorvig, Siegfried Rempel, George Wead, Francis Miksa, Bernard Lukenbill, and Timotby Whelan, University of Texas

To measure users' preferences for bibliographic records that include photographs or other representations of nonbook items.

Merwin Lewis, Elizabeth Dolan and Alexis Jamieson, University of Western Ontario

To survey users' experiences with remote access to online library systems.

Charles Bunge, University of Wisconsin, and Marjorie Murfin, Obio State University

To refine computer readable forms and develop interpretative materials for gathering data on reference questions in academic/research libraries.

Academic Library Management Intern Program

To help outstanding individuals broaden their experience and enhance their management skills through nine-month internships at research libraries. The 1984–85 interns are:

Joseph J. Branin, University of Georgia, interning with Patricia Battin, vice president and university librarian, Columbia University.

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Nicbolas C. Burckel, University of Wisconsin, Parkside, interning with Martin Runkle, director, University of Chicago Library.

James Alan Cogswell, Princeton University, interning with Susan Martin, director of libraries, Johns Hopkins University.

Carolyn Louise Harris, Columbia University, interning with David Bishop, director of libraries, University of Georgia.

Arlyne A. Jackson, Dewey Library, Masachusetts Institute of Technology, interning with Herbert Johnson, director of libraries, Emory University.

Paul Douglas Metz, Virginia Polytechnic Institute and State University, interning with John Mc-Gowan, university librarian, Northwestern University, and I.T. Littleton, director, North Carolina State University Library.

Program Activities, 1984/1985

Professional Education and Training for Research Librarianship Advisory Committee October 22, 1984 (Washington, D.C.)

Appendix A Scholarship, Research, and Access to Information

A Statement from the Council on Library Resources

Those who are concerned with libraries and books have long recognized and often strongly asserted the need for unconstrained access to information as a condition essential to every democratic society. The computer, telecommunications, and text storage technologies that now play a prominent and at times dominant role in many aspects of library service and information systems have created a very different and complicated new environment. The established structure is changing and powerful economic forces are having a profound influence on all aspects of scholarly communication, libraries, and information services generally. While technology is powerful and brings a promise of unmatched opportunities, it is essential to remember that ready access to information is not automatically assured. That goal must be constantly and aggressively pursued. The statement that follows, from the Board of Directors of CLR, is simply a reassertion of an old principle, one that now seems to need special attention.

For twenty-eight years the Board of the Council on Library Resources has concerned itself with the development and performance of academic and research libraries. In terms of collections and service obligations, those libraries have grown greatly during that time. Teachers, scholars, and research faculty are more dependent on them than ever before. During those same years, libraries have also become more complex organizations than they once were. Computer applications have transformed operations, opening the way to development of many specialized services and sophisticated methods of management and control. Economic realities have encouraged and telecommunications (linked with computing) have made possible new affiliations among libraries and, also, the rapid growth of businesses concentrating on the organization and distribution of information to customers of all kinds, worldwide.

These changing patterns of organization and recent technical innovations bring, along with promise, some potential problems affecting access to information that must be resolved if full benefits are to be realized. The first concerns certain restrictive practices of a few of the growing number of commercial and nonprofit database producers and suppliers, especially as they promote their products and services to the academic research community. Simply put, there are conditions for doing business in universities. For vendors of services and information to be useful, even acceptable, participants, those conditions need to be upheld and met. The need for high quality and reliability is obvious. Even more important, research and scholarship require unconstrained access to information. Scholarship is personal, but its results are not private. To judge the validity of scholarly work, the records of past and present research must be open to scrutiny. This is the only way the intellectual audit trail that is at the heart of discovery can be maintained. Limited or conditional access to bibliographic records (or information about information in any form) is of particular concern. Universities, their members, and all of society must keep bibliographic channels open and accessible. In a real sense, the index to the accumulated record of mankind is the hallmark of a democratic and open society.

Second, ways must be found to assure continuing attention for those aspects of culture and learning that are important but, in a commercial sense, not necessarily in fashion. In financial terms, the capital investment and operating costs of new, technology-based information systems are great and funding plans of many kinds are necessary. But there is too often a tendency to assume exact correlation between the economic value of information and its intrinsic worth. Uncritical adherence to the concept of information as a commodity will distort the agendas of institutions and disciplines alike. In order that the concerns of libraries and the needs of scholars might be expressed and met, better ways must be found to build responsible partnerships among all elements of the system of scholarly communication—public and private, commercial and not-for-profit, personal and institutional. Public interest in the principle of open access must appropriately influence the structure of the information system and its components. It is certain that the information needs of society cannot be defined by the marketplace alone.

Finally, the new and deeper affiliations now taking shape among libraries and their parent institutions carry both responsibilities and dependencies that affect access. Cooperative collecting and preservation activities, for example, imply an end to institutional parochialism because extended access is a corollary of cooperation. As individual libraries become, to varying degrees, components of "the nation's library," the nation's scholars become their users. That fact needs to be explicitly acknowledged and accepted for, in the long term, if present trends continue, it will reshape the goals and methods of research libraries.

Even this incomplete list of matters needing attention if open access is to be achieved gives some hint of the difficulties ahead. There are no simple answers or absolute prescriptions. Success is not so much a matter of balancing interests and seeking an appropriate response as it is one of providing many responses that, in the final analysis, are themselves balanced and thus meet reasonable expectations. All information is not the same; the uncritical homogenization of the term is probably a source of much difficulty. Publishing, producing, and distributing information involves costs that must somehow be met. The value of information often changes with use, time, and form. Unconstrained access does not imply cost-free information any more than free information assures accessibility. The information society is in part a state of mind, characterized by shifting needs and methods. Increasingly, it is also becoming a set of established systems that bring risks of constraints along with promises of efficiency. For this very reason, there is a great need to establish the principles and set the conditions under which information will be made accessible. It is the shaping of those principles, both the process and the substance, that is at the heart of our problem.

As did the development of moveable-type printing more than five hundred years ago, today's computing, communications, and storage technologies can profoundly affect civilization by accelerating the rate of change and reducing the isolation of segments of society. Whether change will be improvement as well and whether further social integration will lead to a fuller sharing of the benefits of technical progress are matters for wide discussion and thoughtful action. Our universities, collectively, are an important forum for this discussion and, inescapably, they are leaders in setting the course for action as well. Libraries, as central components of universities traditionally charged with responsibility for accumulating, organizing, preserving, and promoting the use of the accumulated record, must rise to this challenge of unsurpassed importance.

For its part, the Council on Library Resources will keep this topic at the forefront of its program. With others who support the cause, we will work to make a powerful, unambiguous case underscoring the public's expectations for accessible and expansive information services and we will take all appropriate steps to help assure that libraries continue to fill their established role as the source for the full record of the past and as the indispensable base for information services in the future.

January 1985

Note: By the end of the year, this statement had been formally endorsed by the American Library Association, the Association of College and Research Libraries, the Association of Research Libraries, the Independent Research Libraries Association, the National Commission on Libraries and Information Science, the OCLC Online Computer Library Center, and the Research Libraries Group.

Appendix B Program Committees and Project Participants

BIBLIOGRAPHIC SERVICE DEVELOPMENT PROGRAM PROGRAM COMMITTEE

Henriette Avram Library of Congress Rowland Brown OCLC Online Computer Library Center Joan Gotwals University of Pennsylvania James Govan University of North Carolina Carol Ishimoto Harvard University Frederick Kilgour OCLC Online Computer Library Center Richard McCoy Research Libraries Group Roderick Swartz Washington State Library

BIBLIOGRAPHIC SERVICE DEVELOPMENT PROGRAM LINKED SYSTEMS PROJECT

Library of Congress Principal Investigator and Program Officer: Henriette Avram Project Directors: Sally McCallum, Authorities Ray Denenberg, Telecommunications

OCLC Online Computer Library Center Principal Investigator: Rowland Brown Project Director: Michael McGill

Research Libraries Group Principal Investigator: Richard McCoy Project Directors: Tina Kass, Authorities Wayne Davison, Telecommunications

Washington Library Network Principal Investigator: Roderick Swartz Program Officer: N. A. Stussy Project Directors: Raymond DeBuse, Authorities Tom Brown, Telecommunications

COMMITTEE ON PRESERVATION AND ACCESS

Billy Frye, Chair University of Michigan
Harold Billings University of Texas, Austin
Carole Huxley New York State Education Department
Peter Likins Lehigh University
Herbert Morton American Council of Learned Societies Office of Scholarly Communication and Technology
Robert O'Neil University of Wisconsin
Rutherford Rogers Yale University Librarian Emeritus Neil Rudenstine Princeton University Peter Sparks Library of Congress David Stam New York Public Library Sidney Verba Harvard University Robert Warner Archivist of the United States; after April 15, 1985, University of Michigan Bernice Wenzel University of California, Los Angeles

Observers: Harold Cannon National Endowment for the Humanities

John Vaughn Association of American Universities

Consultant: Margaret Child

SEMINAR ON THE ECONOMICS OF RESEARCH LIBRARIES NOVEMBER 1984

Patricia Battin Columbia University Yale Braunstein University of California, Berkeley Richard De Gennaro University of Pennsylvania **Billy Frye** University of Michigan Malcolm Getz Vanderbilt University Robert Haves University of California, Los Angeles William Hubbard, Jr. Upjohn Company Ray Hunt, Jr. University of Virginia James Hyatt National Association of College and University Business Officers Herbert Johnson Emory University

Paul Kantor Tantalus Inc. Donald King King Research Richard McCoy Research Libraries Group William Massy Stanford University Philip Rosenberg Consultant David Sparks University of Maryland Kendon Stubbs University of Virginia **Richard Talbot** University of Massachusetts John Toll University of Maryland Lawrence White New York University

PROFESSIONAL EDUCATION AND TRAINING FOR RESEARCH LIBRARIANSHIP ADVISORY COMMITTEE

John McDonald, Chair University of Connecticut (Resigned May 1985) Russell Bidlack University of Michigan (Resigned September 1984) Margot McBurney Queens University W. Boyd Rayward University of Chicago (Beginning September 1984)
Rutherford Rogers Yale University Librarian Emeritus
Robert Vosper University Librarian Emeritus University content of California, Los Angeles

COMMITTEE ON THE RECORDS OF GOVERNMENT

Ernest May, Chair Charles Warren Professor of History, Harvard University Richard Bolling Louis L. Goldstein Professor of Public Affairs, Washington College Philip Buchen Dewey, Ballantine, Bushby, Palmer & Wood Joseph Califano, Jr. Dewey, Ballantine, Bushby, Palmer & Wood Phillip Hughes Undersecretary, Smithsonian Institution Edward Levi University of Chicago Franklin Lindsay Chairman, Dectron, Inc. Project Director: Anna Nelson

Appendix C Publications and Reports Resulting From CLR Programs, 1984–1985

Part I. Publications of the Council and CLR Staff

- Command Language and Screen Displays for Public Online Systems. Report of a meeting sponsored by the Council on Library Resources, March 29–30, 1984, Dublin, Ohio. Compiled and edited by Paul Evan Peters. Washington, D.C., Council on Library Resources, March 1985.
- "Council on Library Resources Grant Program" (brochure). April 1985.
- Information Systems Consultants Inc. Videodisc and Optical Digital Disk Technologies and Their Applications in Libraries. A Report to the Council on Library Resources. Washington, D.C., Council on Library Resources, March 1985.
- Jones, C. Lee. "Academic Libraries and Computing: A Time of Change." EDUCOM Bulletin 20 (Spring 1985) 9-12.
 - . "Library Patrons in an Age of Discontinuity: Artifacts of Technology." Journal of Academic Librarianship 10 (July 1984) 151-54.
 - -. "Issues in Retrospective Con-

version: Nine Recommendations for a Coordinated Program to Produce and Share Machine-Readable Bibliographic Records Nationally." *College & Research Libraries News* 45 (November 1984) 528-32.

- Online Catalog Design Issues: A Series of Discussions. Report of a conference sponsored by the Council on Library Resources, Baltimore, Maryland, September 21–23, 1983. Edited by Brian Aveney. Washington, D.C., Council on Library Resources, July 1984. ED 253 231.
- Reed-Scott, Jutta. Issues in Retrospective Conversion. Report of a study conducted for the Council on Library Resources. With contributions by Dorothy Gregor and Charles Payne. Washington, D.C., Council on Library Resources, May 1984. ED 247 959.
- Retrospective Conversion. Report of a meeting sponsored by the Council on Library Resources, July 16–18, 1984, Wayzata, Minnesota. Compiled and edited by Dorothy Gregor. Washington, D.C., Council on Library Resources, September 1984. ED 253 232.

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- Retrospective Conversion of Music Materials. Report of a meeting sponsored by the Council on Library Resources, July 18-19, 1984, Wayzata, Minnesota. Compiled and edited by Dorothy Gregor. Washington, D.C., Council on Library Resources, September 1984. ED 253 233.
- Rosenberg, Jane A. "The Council on Library Resources, Inc." In *The Bowker* Annual of Library and Book Trade Information, 30th ed., 265-71. New York, Bowker, 1985.
- "Scholarship, Research, and Access to Information." A Statement from the Council on Library Resources. January 1985.

Part II. Publications by Grantees

- Anderson, Dorothy J. "Comparative Career Profiles of Academic Librarians: Are Leaders Different?" Journal of Academic Librarianship 10 (January 1985) 326-32.
- Bunge, Charles. "Factors Related to Reference Question Answering Success: The Development of a Data Gathering Form." RQ 24 (Summer 1985) 482– 86. (Cooperative Research Project Report.)
- Carter, Ruth C., and Scott Bruntjen. "Pittsburgh Regional Library Center Serials Cancellation Project." *Library Resources and Technical Services* 28 (October/December 1984) 299-307.
- Cochrane, Pauline A., and Karen Markey. "Preparing for the Use of Classification in Online Cataloging Systems and in Online Catalogs." Information Technology and Libraries 4 (June 1985) 91-111.
- Committee on the Records of Government. Report. Washington, D.C., March 1985.

- Denenberg, Ray. "Linked Systems Project, Part 2: Standard Network Interconnection." *Library Hi Tech* 3 (No. 2, Consecutive Issue 10, 1985) 71–79.
- Getz, Malcolm, and Douglas Phelps. "Labor Costs in the Technical Operations of Three Research Libraries." Journal of Academic Librarianship 10, no. 4 (September 1984) 209–19. (Cooperative Research Project Report.)
- International Conference on Research Library Cooperation, Stanford, California, October 1-3, 1984. Papers 1-13.
 Stanford, California, Research Libraries Group, October 1984. ED 253 224.
- McCallum, Sally H. "Linked Systems Project, Part 1: Authorities Implementation." *Library Hi Tech* 3 (No. 2, Consecutive Issue 10, 1985) 61-68.
- Markey, Karen. "Subject-Searching Experiences and Needs of Online Catalog Users: Implications for Library Classification." *Library Resources and Techni*cal Services 29 (January/March 1985) 34-51.
- Matthews, Joseph R., and Gary S. Lawrence. "Further Analysis of the CLR Online Catalog Project." *Information Technology and Libraries* 3 (December 1984) 354-76.
- Mount, Ellis. University Science and Engineering Libraries. 2d ed. Westport, Conn., Greenwood Press, 1985.
- Potter, William Gray. "Collection Overlap and Diversity in the Illinois LCS (Library Computer System) Network." Ph.D. diss., University of Illinois, 1984.
- Stuart-Stubbs, Basil, ed. Changing Technology and Education for Librarianship and Information Science. Greenwich, Conn., JAI Press, 1985. (Report of Frontiers Conference II.)
- Thomas, Sarah E. "Collection Develop-

ment at the Center for Research Libraries: Policy and Practice." College and Research Libraries 46 (May 1985) 230-35.

Watson, Paula D., and Kathleen M. Heim. "Patterns of Access and Circulation in a Depository Document Collection Under Full Bibliographic Control." *Government Publications Review* 11 (1984) 269–92. (Cooperative Research Project Report.)

Part III. Project Reports Received

- Anderson, Dorothy J. "Career Characteristics of CLR Senior Fellows Compared to an ACRL Control Group: Report." October 1984.
- Association of Academic Health Sciences Library Directors. "Guidelines for Academic Health Sciences Libraries." First Working Draft. Prepared by the Joint AAHSLD/MLA Task Force. July 1984.
- Association of Research Libraries. Office of Management Studies. Manual for the North American Inventory of Research Library Collections. Prepared by Jutta Reed-Scott. Washington, D.C., January 1985.
- Atlanta University. School of Library and Information Studies. "Report of the Planning Grant from the Council on Library Resources." August 1984.
- Bowden, Virginia, Elizabeth Anne Comeaux, and Sharon Gavin Fought. "Comparative Analysis of Monographic Collections in Nursing." January 31, 1985. (Cooperative Research Project Report.)
- Case Western Reserve University. "Report of the University Commission on Information Sciences." Cleveland, Ohio, October 1, 1984.

- Currie, Jean. "Evaluation of Document Delivery Sources." Ithaca, N.Y., May 1985. (Cooperative Research Project Report.)
- Diener, Ronald E. "Subject Thesaurus Research for an Online Catalog: Report." Columbus, Ohio, OHIONET, October 4, 1984.
- Dobson, Cynthia, Dilys Morris, and Paula Morrow. "Final Report of an Investigation of the Impact of a Changing Work Environment on Job Satisfaction and Job Performance." December 1984. (Cooperative Research Project Report.)
- Farid, Mona, et al. "A Study of Information Seeking Behavior of Ph.D. Students in Selected Disciplines." Final Report. Syracuse, N.Y., School of Information Studies, October 1984. ED 252 213.
- Kantor, Paul B. "Final Report on the Relation Between Consortia, On-Line Services, and the Cost of Processing Monographs at Eight University Libraries." November 6, 1984.
- Kent State University. "Innovation and Improvement of Basic and Supplementary Education of Academic and Research Librarians: Report to the Council on Library Resources on Studies Conducted and Actions Taken." April 1985.
- Lipetz, Ben-Ami, and Peter J. Paulson. "A Study of Impact of Technological Change in Library Service Facilities." October 15, 1984. ED 253 236. (Cooperative Research Project Report.)
- Marchionini, Gary, and Danuta Nitecki. "Learning to Use an Online Circulation System: Final Report." June 1, 1985. (Cooperative Research Project Report.)
- Marchionini, Gary, and Dean Gattone. "Searching the Online Public Access

Catalog: Final Report." May 31, 1985. (Cooperative Research Project Report.)

- Miller, Keith A., Jean S. Johnson, and Michael D. Shorland. "Library Use and Preferences: A Comparison of On-Campus and Off-Campus Students at the University of Wyoming." September 25, 1984. (Cooperative Research Project Report.)
- Minnesota Interlibrary Telecommunications Exchange. "A Descriptive/Analytical Scheme for Use in Evaluating Interlibrary Access to Materials." A Report on a Development Project. Minneapolis, Minn., April 1985.
- Montgomery, K. Leon, Jill Seinola, and Pamela Vance. "The Investigation of Demand for a Rapid Document Delivery Service for the University of Pittsburgh Library System." February 1, 1985. (Cooperative Research Project Report.)
- New York University Libraries. "A Study of User Success With an Online Catalog: Final Report." New York, December 1984.
- Nielsen, Brian. "Educating the Online Catalog User: A Model for Instructional Development and Evaluation." Final Report. Evanston, Ill., Northwestern University Library, January 4, 1985.
- Powell, Ronald R., and Sheila Creth. "Report of a Survey to Assess the Present Need of University of Michigan Library School Graduates for Job

Skills." April 1985. (Cooperative Research Project Report.)

- Rutgers University. School of Communication, Information and Library Studies. "Narrative Report on Council on Library Resources Planning Grant for Training Research Librarians in Science and Technology." February 1985.
- Smith, Karen F., Stuart C. Shapiro, and Sandra Peters. "Final Report on the Development of a Computer Assisted Government Documents Reference Capability, First Phase." Buffalo, N.Y., State University of New York at Buffalo, November 1, 1984. (Cooperative Research Project Report.)
- Thomas, Sarah E. "The Center for Research Libraries Serial Holdings: Location Distribution as an Aid to Assessing Collection Development Policy: Report." July 31, 1984.
- University of Alabama. "Innovation and Improvement of Basic and Supplementary Education of Academic and Research Librarians: Report." February 13, 1985.
- University of Denver. "Final Report on Planning Grant." November 1984.
- University of Tennessee. Graduate School of Library and Information Science. "Preparation of Information Professionals at the Undergraduate Level." A Report of the Library Education Planning Grant Awarded by the Council on Library Resources. February 1985.

Appendix D Program Guidelines and Grant Application Procedures

Grants from the Council on Library Resources support work on matters pertinent to library service and information systems, with the special objective of improving the quality and performance of academic and research libraries. Individuals, libraries, and related organizations are invited to inquire about specific aspects of the program or to explore prospects for assistance. The Council has two approaches to providing funds. Individuals with appropriate interests and expertise may take the initiative and propose research projects in any aspect of the broad area of information systems and services. The second approach supports work directly related to a small number of carefully defined program activities of current interest to CLR and of great importance to libraries and their users.

General Research Grants

Proposals are accepted for carefully developed projects to explore topics directly related to the generation, accessibility, and use of recorded information, especially where the results are likely to support library objectives. Individuals from any academic discipline who have an interest in the broad subject of information and its use are urged to explore their ideas with CLR staff. Typically, these research grants are modest in size and are intended to cover the incremental costs of projected work, not continuing operating expenses or the salary costs of principals. Among the broad subjects of interest (and there are many) are:

The influence of computer and other technologies on library operations and management.

The information requirements of major disciplines, including the relationship between the characteristics (format, accessibility, etc.) of information and its utility.

The economics of libraries.

Program Grants

The Council devotes much of its effort and resources to the development and installation of new operating methods and systems in a few carefully defined sectors and to the continuing definition and refinement of the library profession. These activities are chosen for their potential importance to many libraries. Support is not provided for facilities construction, collection acquisitions, or the operating costs of single institutions, or for development activities likely to be of limited influence. While CLR, in consultation with its advisors, often initiates and promotes work in program areas, exploratory correspondence and conversation are welcome and proposals receive careful consideration.

The current program areas are:

Library resources—availability, accessibility, and preservation

The objective is to assure unmatched national resources for research and their wide accessibility. Preservation of those resources is a matter for special attention.

Bibliographic services

A long-term Council commitment is to extend (as widely and comprehensively as possible) awareness of the existence and location of recorded information in all forms. Special attention is given to containing costs of cataloging and related library activities.

Library management

Council-funded activities have served to influence and improve many aspects of library management. Future emphasis will be on the development and management of services and functions in an interinstitutional setting.

The library profession

This topic, which is one of increasing importance, includes adding to the skills of promising librarians and promoting constructive change in professional education.

At any given time, there may be specialized projects in any of these active, generic program areas. Four such programs related to librarianship and professional education are now active. Detailed descriptions, including special provisions, deadlines, and application instructions, are available.

1. Faculty/Librarian Cooperative Research Program

This cooperative program is designed to enhance the research skills of librarians and to promote better communication between librarians and teaching faculty.

2. Management Intern Program

A small number of exceptional librarians are selected periodically to spend an academic year working directly with a university librarian, to learn more of the full range of administrative responsibilities.

3. Improving Library Education

Grants to library schools are available in limited numbers, to provide partial funding for basic improvement in academic programs.

4. Internships for Recent Library School Graduates

Support for a few experimental but promising programs undertaken by research libraries provides advanced training and research opportunities for new staff members, with the assumption that, ultimately, all staff will benefit.

Application Procedures

Initial inquiries should state the purpose of the proposed work, identify the methods to be used, establish the credentials of the responsible individuals, and provide a careful estimate of total costs and funding requirements. CLR will respond promptly with an indication of interest. If subsequent exploration seems justified, preparation of a complete proposal will be suggested. Full documentation should include:

- 1. A fifty-word description of the proposed project.
- 2. A full explanation of the work to be done, including objectives, duration, and methods to be employed. Background information and the methods proposed for project evaluation should also be included.
- 3. A detailed project budget in which costs are linked to the tasks to be performed. CLR does not fund indirect costs or equipment purchases.
- 4. Curriculum vitae of the principal investigators.

All proposals are carefully reviewed by CLR staff and external advisors, who consider such matters as relevance to current CLR interests and activities; relationship to other, similar work; projected costs in the context of the work required; and importance of anticipated results. The Council also looks for institutional support of a proposed project, as demonstrated by a willingness to share in the costs of the enterprise. With the exception of the special programs noted above, there are no deadlines for grant proposals.

All inquiries should be addressed to Council on Library Resources, Inc., 1785 Massachusetts Ave., N.W., Washington, D.C. 20036.

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PART II. ACTIVE PROJECTS FINANCIAL STATEMENTS

Introduction

The sections that follow record the financial details of all grants in force during the year and provide an overall picture of CLR income and expenditures. That income represents, in large part, grants from the many private foundations and the National Endowment for the Humanities that have supported CLR during all of its twentynine years. Those that have helped during the past year are identified below. Librarians and those who use libraries have good reason to join us in acknowledging with gratitude this continuing assistance.

Money alone is not enough. It is the responsibility of the CLR staff, working with members of the Board of Directors, to put financial resources to good use and to monitor the activity of CLR grantees in both programmatic and financial terms. Three staff members ended full-time service during the year: C. Lee Jones, Program Officer; George Parsons, Information Systems Specialist; and Keith Russell, Program Associate. Three others joined the full-time staff: Mark Cain and Barbara Dean as Program Associates and Netta Berlin as Program Assistant. Lee Jones continues his affiliation on a part-time basis as Program Consultant and, toward the year's end, Patricia Battin, Vice President and University Librarian at Columbia, assumed the same title. Those who have helped in the past, the new colleagues, and those who continue on reflect both the continuity and the change that have characterized CLR programs over the years.

Foundations Funding CLR during 1984/1985

The Carnegie Corporation of New York The Exxon Education Foundation The Ford Foundation The J. Paul Getty Trust The William and Flora Hewlett Foundation The Lilly Endowment, Inc. The Andrew W. Mellon Foundation The Pew Memorial Trust The Rockefeller Foundation The Alfred P. Sloan Foundation and The National Endowment for the Humanities

Grants and Contracts Active in Fiscal 1985 (unaudited)

		FY 1	985	
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85
Academic Library Management			<i></i>	
Intern Program 1983–84	\$ 395	\$ (450)	\$ (55)	\$ -0-
1984-85	161,200	(4,547)	156,653	-0-
American Council of Learned Societies				
New York, N.Y.				
Office of Scholarly Communication & Technology	-()-	25,000	25,000	-0-
American Geographical Society New York, N.Y.				
Columbia Gazetteer of the World	-0-	15,000	7,500	7,500
American Library Association Chicago, Ill.				
Supplementary data analysis				
for ACRL Statistics	-0-	1,000	1,000	-0-
Association of Academic Health Sciences Library Directors Washington, D.C.				
Guidelines for academic health sciences center libraries	18,000	-0-	15,700	2,300
Association of American Publishers Washington, D.C. Development of publishing industry standards and author guidelines in				
electronic manuscript preparation	25,000	-0-	15,000	10,000
Association of Research Libraries Washington, D.C.	99 9	e no anno 2000 anno 2		
Academic Library Program	8,500	-0-	8,500	-0-
Collection assessment for small academic libraries	2,200	(2,200)	-()-	-()-
Collection of data on costs of library automation	-0-	3,500	3,500	-0-
CONSER abstracting and indexing coverage project	55,500	-0-	55,500	-0-
Development of a coordinated retrospective conversion program	-0-	16,395	15,000	1,395

	FY 1985			
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85
Institute for library educators First—1984 Second—1986	33,250 -0-	-0- 45,857	33,250 20,000	-0- 25,857
National inventory of research collections	3,355	(1,421)	1,934	-()-
Carleton College Northfield, Minn. Index to microform collections	250	(250)	-0-	-()-
Catholic University of America Washington, D.C. Conference on continuing library and information science education	-0-	10,000	5,000	5,000
Center for Research Libraries Chicago, III. Study of membership, governance, and fees	-0-	8,800	8,000	800
Columbia University New York, N.Y. Measuring the public services impact of an online catalog	11,200	-0-	-()-	11,200
Cornell University Ithaca, N.Y. Testing microcomputer technology for supporting access to large bibliographic data files	-0-	3,000	-0-	3,000
Council of National Library and Information Associations Haverford, Penn. Support of American National Standards Committee Z39	7,500	-0-	7,500	-()-
Duke University Durham, N.C. Research on Byzantine bindings	2,500	-0-	-0-	2,500
Earlham College Richmond, Ind. Use of online abstracts for undergraduate research	-0-	1,267	0-	1,267
Eckerd College St. Petersburg, Fla. Bibliographic instruction workshop	-0-	2,500 (631)	2,500 (631)	-()-

		FY 19	985	
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85
Emory University				
Atlanta, Ga.				
Study of collection development				
in professional school collections	-0-	2,532	2,532	-0-
Forest Press	<u></u>			
Albany, N.Y.				
The Dewey Decimal Classification				
as an online searching tool for				
subject access	37,350	-0-	30,000	7,350
Malcolm Getz				
Nashville, Tenn.				
Preparation of a critical review				
of library statistics	2,500	(2,500)	-0-	-0-
Indiana University		<u> </u>		
Bloomington, Ind.				
Planning for a forum on				
research librarianship	-0-	1,980	1,980	-0-
Information Systems				,
Consultants Inc.				
Washington, D.C.				
Study of videodisc and optical				
digital disk technologies	8,500	311	8,811	-0-
International Council for Scientific			_	
and Technical Information				
Paris, France				
Comparison of serials usage in				
interlibrary loan organizations	-0-	8,000	7,000	1,000
International Federation of Library				
Associations and Institutions				
The Hague, Netherlands				
Planning IFLA core programs	67,000	-0-	-0-	67,000
Report on copyright and				
materials for the handicapped	1,000	-0-	-0-	1,000
Library of Congress				
Washington, D.C.				
Bibliographic analysis-				
Linked Systems Project	3,120	-0-	-0-	3,120
Joint project for authorities				
implementation	49,485	-0-	49,485	-0-
Travel costs for the	* * * * *		-, -	
Linked Systems Project	1,481	(1,481)	-0-	-0-
	1, 101	(,, ()))		

		FY 1985			
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85	
Louisiana State University			H -Hut Is Is 2' Minstern		
Baton Rouge, La.					
Planning for training library					
professionals skilled in systems	0	5 000	5 000	0	
development	-0-	5,000	5,000	-0-	
P. B. Mangla					
Delhi, India					
Travel to selected U.S. libraries					
and library schools	-0-	2,500	-0-	2,500	
Massachusetts Institute of					
Technology					
Cambridge, Mass.					
Study of the electronic delivery of					
visual images and text from the					
library to the academic community	-0-	2,894	-0-	2,894	
National Association of College					
and University Business Officers					
Washington, D.C.					
Study of strategic planning in					
university libraries	-0-	25,000	24,000	1,000	
National Commission on Libraries					
and Information Science					
Washington, D.C.					
Study of the role of fees in					
supporting library and information					
services	-0-	10,000	10,000	-()-	
National Information Standards			<u> </u>		
Organization					
Gaithersburg, Md.					
Service as secretariat for an					
International Standards					
Organization subcommittee	-0-	3,000	-0-	3,000	
New York University				d.dollada	
New York, N.Y.					
Study of user success					
with an online catalog	1,736	-0-	1,736	-0-	
North Carolina Central University					
Durham, N.C.					
Planning grant-interdisciplinary					
Master of Information Science					
degree program	-0-	5,000	5,000	-0-	
	-				

2,145 3,000 2,983	Unpaid 6/30/85 -0-
3,000	
3,000	
	-0-
	-0-
2,983	
	-0-
5,000	139,000
-0-	1,500
	<u> </u>
-0-	612
1,000	1,000
5,000	-0-
-0-	3,000
-0-	11,470
	5,000

		FY 19	985	
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85
Joint project for authorities implementation	159,245	-()-	70,000	89,245
Joint project for Standard Network Interconnection	39,500	(598)	38,902	-0-
Planning the integration of machine-readable data files into the Research Libraries				
Information Network	-0-	(3,730)	(3,730)	-0-
Rutgers University New Brunswick, N.J. Development of a training program for scientists in research librarianship	4,846	-0-	4,846	-0-
Inventory of machine-readable texts in the humanities	2,800	-0-	2,800	-0-
Study of the number of bibliographic citations preferred by undergraduates using online systems	-0-	3,000	3,000	-0-
Stanford University		· · ·		
Stanford, Calif.				
Study of alternate approaches				
to end-user searching	4,300	-0-	-0-	4,300
State Historical Society of Wisconsin				
Madison, Wis.				
Study of the impact of transaction fees on interlibrary loan	-0-	2,960	2,960	-0-
State University of New York Albany, N.Y.				
Catalog use at New York State Library	-0-	(480)	(480)	-0-
State University of New York Buffalo, N.Y.		<u>a ana ana ana an</u> dia kang pinangan araka kana kana ka		
Development of a computer-assisted				
documents reference capability	3,000	-0-	3,000	-0-
Investigating options for special training for academic librarians	-0-	5,000	5,000	-0-
Syracuse University Syracuse, N.Y.				
Frontiers Conference III: Emerging				
Patterns for Scholarly Inquiry	-0-	35,000 (34,402)	5,825 (5,227)	-0-
Study of information-seeking behavior of Ph.D. students	-0-	(22)	(22)	-0-

	FY 198		985	
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85
Tantalus Inc.				
Cleveland, Ohio				
Study of the costs and benefits				
of consortium membership	8,500	-0-	8,500	-0-
University of Alabama				
University, Ala.				
Planning instructional modules				
in library management	-0-	3,535	3,535	-0-
University of Arizona				
Tucson, Ariz.				
Study of time management in				
academic libraries	-0-	2,773	2,773	-0-
University of California				
Berkeley, Calif.				
Demonstration of a packet				
radio terminal system	5,000	-0-	-0-	5,000
University of California		, i i i i i i i i i i i i i i i i i i i		
Irvine, Calif.				
Benefits of economies of scale				
from library consolidation	-0-	(665)	(665)	-0-
University of California		annan i i		
Los Angeles, Calif.				
Bibliography of works about				
education for librarianship	-0-	8,000	7,000	1,000
Dimensions of the preservation				
problem (research assistance)	-0-	2,000	2,000	-0-
Planning for a coordinated				
degree program in library	0	5 000	E 000	0
science and fine arts	-0-	5,000	5,000	-0-
Professional profile of CLR senior fellows	-0-	(1.024)	(1.034)	-0-
	-	(1,024)	(1,024)	
Senior fellows program 1983-85	56,392	-0-	-0-	56,392
University of Chicago				
Chicago, Ill.				
Curriculum evaluation in library				
automation and information science	5,000	-0-	5,000	-0-
Implementation of a concentration				
in library automation and				
information systems	-0-	81,500	42,000	39,500
Multi-institutional program of				
professional development for				
recent library school graduates	-0-	66,285	29,325	36,960

		FY 19	985		
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85	
Study of reference collection					
development policies	-0-	3,000	3,000	-0-	
University of Denver					
Denver, Colo.					
Needs assessment among					
academic/research librarians	-0-	(4,119)	(4,119)	-0-	
University of Florida					
Gainesville, Fla.					
Impact of automation on the					
law school library budget	-0-	3,000	3,000	-0-	
University of Georgia		ana an			
Athens, Ga.					
Internships for recent					
library school graduates	-0-	80,000	-0-	80,000	
University of Houston					
Houston, Tex.					
Improvement of subject access					
to the Library of Congress					
Subject Headings	2,350	-0-	2,350	-0-	
University of Illinois	an <u>a</u> nanan				
Urbana, III.					
Coalition for Public					
Library Research	-0-	5,000	5,000	-0-	
Collection overlap and diversity in					
the LCS network in Illinois	3,320	-0-	-0-	3,320	
	- /-				
Use of government documents	0	(1.201)	(1.201)	0	
in a large research library	-0-	(1,201)	(1,201)	-0-	
University of Illinois at Chicago					
Chicago, Ill.					
Study of the impact of technological	0	2,000	0	2 000	
changes on library functional units	-0-	3,000	-0-	3,000	
University of Kentucky					
Lexington, Ky.					
Second edition of Library of					
Congress Subject Headings:	2 260	0	2 000	1/0	
Principles and Application	2,360	-0-	2,000	360	
University of Maryland					
College Park, Md.					
Development and testing of training					
materials for the library's online	0	2 000	2 000	0	
circulation system	-0-	3,000	3,000	-0-	
Online catalog user study	-0-	3,000	3,000	-0-	

		FY 1985			
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85	
University of Michigan Ann Arbor, Mich.					
Basic professional education for research librarianship	135,116	-0-	57,786	77,330	
Comparison of approval plan profiles for research libraries	-0-	2,935	-0-	2,935	
Job skills assessment of library school graduates	1,300	800 (38)	2,062	-0-	
Study of the relationship between bibliographic access to stored materials and faculty attitude and use	31,747	-0-	-0-	31,747	
University Library Associates Program	-0-	35,000	-0-	35,000	
University of Minnesota					
St. Paul, Minn. Analysis and evaluation of document delivery service	-0-	(263)	(263)	-0-	
Development of a document delivery model	5,127	-0-	4,000	1,127	
University of Pittsburgh Pittsburgh, Penn.			the system PRESSOR		
Study of demand for rapid document delivery service	2,995	(150)	2,995 (150)	-0-	
University of Tennessee Knoxville, Tenn.		1			
Development of an undergraduate program in information science	-0-	3,221	3,221	-0-	
University of Texas					
Austin, Tex. Users' preferences for inclusion of images in bibliographic records	-0-	2,993	2,993	-0-	
University of Texas San Antonio, Tex.					
Comparative analysis of monographic collections in nursing	3,000	-0-	3,000	-0-	
University of Western Ontario London, Ontario					
Users' experiences with remote access to online library systems	-0-	1,330	1,330	-0-	

	FY 1985		985	
	Unpaid 6/30/84	Grants (Adjustments)	Payments (Refunds)	Unpaid 6/30/85
University of Wisconsin				
Madison, Wis.				
Development of a supplementary education program for academic and research librarians	-0-	(1,132)	(1,132)	-0-
Development of computer-readable forms for gathering data on reference questions	-0-	2,780	2,780	-()-
Supplementary education program for academic and research librarians	-0-	66,097	15,534	50,563
University of Wyoming				
Laramie, Wyo.				
Study of non-traditional academic library users in Wyoming	-0-	(1,004)	(1,004)	-()-
Washington Library Network				
Olympia, Wash.				
Bibliographic analysis—Linked Systems Project	6,887	-0-	-0-	6,887
Joint project for authorities implementation	73,801	-0-	50,000	23,801
Joint project for Standard Network Interconnection	82,500	(65,726)	16,774	-()-
Wayne State University		· · · · · · · · · · · · · · · · · · ·		
Detroit, Mich.				
Impact of microcomputers in academic research libraries	-0-	(815)	(815)	-()-
Priscilla C. Yu				
Urbana, 111. Travel and research on collection				
development of Western language materials in Chinese libraries	-0-	3,000	2,900	100
Totals	\$1,193,335	\$918,245 (132,866)	\$1,134,400 (20,518)	\$ 864,832

COUNCIL ON LIBRARY RESOURCES, INC.

Opinion of Independent Accountants

August 28, 1985

To the Board of Directors of Council on Library Resources, Inc.

In our opinion, the accompanying balance sheets and the related statements of revenues, expenses and changes in fund balances, of functional expenses and of changes in cash and short-term investments present fairly the financial position of the Council on Library Resources, Inc. at June 30, 1985 and 1984, the results of its operations for the year ended June 30, 1985 and the changes in its cash and short-term investments for the two years then ended, in conformity with generally accepted accounting principles consistently applied. Our examinations of these statements were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Price Waterhouse Washington, D.C.

COUNCIL ON LIBRARY RESOURCES, INC.

Balance Sheets

	Ju	ne 30
	1985	1984
ASSETS	<u></u>	
Cash and short-term investments, including restricted amounts of		
\$1,271,662 and \$1,492,363, respectively	\$3,479,759	\$3,532,672
Grants receivable (Note 2)		
Unrestricted	450,000	900,000
Restricted	4,959,000	3,676,200
Prepaid expenses and deposits	9,821	8,016
Total assets	\$8,898,580	\$8,116,888
LIABILITIES AND FUND BALANCE		
Deferred income (Note 2)		
Unrestricted	\$ 700,000	\$1,150,000
Restricted	5,425,499	4,211,136
Grants and contracts payable (Note 2)		
Unrestricted	59,669	235,908
Restricted	805,163	957,427
Accounts payable and accrued		
employee benefits	41,321	52,759
Federal excise taxes payable	7,108	6,039
Total liabilities	7,038,760	6,613,269
Unrestricted fund balance		
Appropriated	1,156,164	830,452
Unappropriated	703,656	673,167
Total fund balance	1,859,820	1,503,619
Total liabilities and		
fund balance	\$8,898,580	\$8,116,888

Statement of Revenues, Expenses and Changes in Fund Balances

FOR THE YEAR ENDED JUNE 30, 1985

(With Comparative Totals for 1984)

	Unrestricted	Restricted	Total 1985	Total 1984*
Decrements (Nieter 2)	omesticud		1,0,	.,
Revenues (Note 2) Grants and				
	\$ 450,000	\$1,428,841	\$1,878,841	\$1,433,648
contracts		\$1,420,041		
Investment income	355,386		355,386	301,965
Total revenues	805,386	1,428,841	2,234,227	1,735,613
Expenses (Notes 2, 3 a	nd 4)			
Program				
Research	96,420	189,170	285,590	
Library operations				
Resources	56,418	300,353	356,771	162,297
Bibliography		446,337	446,337	525,341
Management	61,841	6,094	67,935	105,040
Librarianship	48,696	486,887	535,583	358,716
Special programs				305,073
Total program	263,375	1,428,841	1,692,216	1,456,467
Administration	185,810	1,420,041	185,810	204,479
Administration			10,010	
Total expenses	449,185	1,428,841	1,878,026	1,660,946
Excess of revenues				
over expenses	356,201		356,201	74,667
Fund balance, begin-				
ning of year	1,503,619		1,503,619	1,428,952
Fund balance, end of				
year	\$1,859,820	\$	\$1,859,820	\$1,503,619

*Reclassified for comparative purposes.

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COUNCIL ON LIBRARY RESOURCES, INC.

STATEMENT OF FUNCTIONAL EXPENSES FOR THE YEAR ENDED JUNE 30, 1985

(With Comparative Totals for 1984)

	Research	Library Operations				Total		Year ended June 30	
		Resources	Bibliography	Management	Librarianship	Program	Administration	1985	1984*
Unrestricted									
Grants and contracts	\$ 25,000	\$ 35,000			\$ 35,913	\$ 95,913		\$ 95,913	\$ 321,296
Refunds and overappropriations		(3,081)			(5,035)	(8,116)		(8,116)	(15,700)
Staff and travel	31,221	2,029		\$25,858		59,108	\$104,838	163,946	171,330
Advisory committees	39					39		39	22,970
Consultants	4,000				1,580	5,580	18,864	24,444	20,420
Office expenses	177	4,478			16,238	20,893	8,190	29,083	89,826
Support services	35,983	17,992		35,983		89,958	53,918	143,876	67,156
	96,420	56,418		61,841	48,696	263,375	185,810	449,185	677,298
Restricted									
Grants and contracts	29,811	62,694	\$273,395	7,957	448,475	822,332		822,332	554,227
Refunds and overappropriations	(2,500)	(733)	(75,553)	(1,863)	(44,101)	(124,750)		(124,750)	(220,555)
Staff and travel	20,351	64,057	41,257		41,211	166,876		166,876	290,580
Advisory committees	26,190	22,668	80,013		2,356	131,227		131,227	120,414
Consultants	38,909	61,273	79,372		1,579	181,133		181,133	78,776
Office expenses	4,443	18,428	11,870		1,384	36,125		36,125	15,206
Support services	71,966	71,966	35,983		35,983	215,898		215,898	145,000
	189,170	300,353	446,337	6,094	486,887	1,428,841		1,428,841	983,648
Total expenses	\$285,590	\$356,771	\$446,337	\$67,935	\$535,583	\$1,692,216	\$185,810	\$1,878,026	\$1,660,946

* Reclassified for comparative purposes.

COUNCIL ON LIBRARY RESOURCES, INC.

Statements of Changes in Cash and Short-term Investments

	Year ended June 30		
	1985	1984	
Sources of cash and short-term investments			
Excess of revenues over expenses	\$ 356,201	\$ 74,667	
Increase in deferred income	764,363	1,816,351	
	1,120,564	1,891,018	
Uses of cash and short-term investments			
Increase in grants receivable	832,800	1,163,608	
Decrease in grants and contracts payable	328,503	821,377	
Other	12,174	7,630	
	1,173,477	1,992,615	
Decrease in cash and short-term			
investments for the year	(52,913)	(101,597)	
Cash and short-term investments,			
beginning of year	3,532,672	3,634,269	
Cash and short-term investments,			
end of year	\$3,479,759	\$3,532,672	

Notes to Financial Statements

JUNE 30, 1985 AND 1984

Note 1-Organization

The Council on Library Resources, Inc. (Council) is a nonprofit organization incorporated under the laws of the District of Columbia in 1956 for the purpose of promoting library research. The Council's operations are financed through unrestricted general support grants and through several restricted grants from private foundations and other sources. The Council conducts its work through directly administered projects as well as grants to and contracts with other organizations or individuals.

The Council is a private operating foundation and is exempt from Federal income tax under Internal Revenue Code section 501(c)(3). It is, however, subject to a 2% excise tax on investment income under the provisions of the Revenue Act of 1978.

Note 2-Summary of Significant Accounting Policies

The Council's financial statements have been prepared on the accrual basis of accounting. The significant accounting policies followed in the preparation of the financial statements are described below.

Grants

Grants are recorded as receivables and deferred revenue when the Council is notified that it has been awarded the funds. Unrestricted grant revenue is recognized in accordance with the budgeted annual payments specified by the grantors. Restricted grant revenue is recognized when the related expenses are incurred.

Grant and contract expenses are recorded when the recipients are notified that they are to receive the funds. Current period expenses are reduced for grant refunds and overappropriations.

Investments and investment income

Short-term investments are recorded at cost which approximates market. Investment income is recognized as unrestricted revenue.

Functional allocation of expenses

Costs of providing the various programs of the Council have been summarized on a functional basis in the accompanying financial statements. Certain indirect costs identified as support services costs have been allocated to programs and administration on a systematic basis. These costs primarily include salary, benefits, rent and other expenses.

Furniture and equipment

The costs of office furniture and equipment are consistently charged to expense when incurred. The Council does not consider such expenditures to be sufficiently material to warrant capitalization and depreciation.

Note 3-Retirement Plan

Employees are eligible for participation in the Council's retirement annuity program, which is administered through the TIAA/CREF insurance companies. Individual contracts issued under the plan provide for full and immediate vesting of both the Council's and employees' contributions. The Council's contribution amounted to \$51,000 and \$61,000 for fiscal years 1985 and 1984, respectively.

Note 4—Commitments

The Council entered into a lease agreement for office space expiring in 1987 which may be cancelled with one year notice. The minimum future rentals as of June 30, 1985 are approximately \$137,000 for fiscal year 1986 and \$126,000 for fiscal year 1987.

In September 1982, the Council entered into an agreement to sub-lease a portion of its leased office space. The rent income from the sub-lease amounted to approximately \$30,000 in fiscal year 1985 and was used to offset office rent expense.

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